



## THYROID NODULES

### Thyroid nodules may disappear on long-term follow-up after iodization of salt

#### BACKGROUND

Iodine is an essential nutrient in making thyroid hormones. Iodine deficiency in the diet leads to thyroid nodules, goiter and hypothyroidism. Iodine can be added to salt to treat iodine-deficient diets and, consequently, many countries have salt iodination programs to prevent iodine deficiency in their populations. When a country starts such a program, the rates of hypothyroidism decrease significantly. What is less well known is whether there is any change in the rate of thyroid nodules after starting a salt iodination program. The main goal of the current study was to assess changes in thyroid gland structure after the introduction of a salt iodination program in Denmark

#### THE FULL ARTICLE TITLE

Krejberg A et al. Thyroid nodules in an eleven year DanThyr follow-up study. *JCEM* 2014; 99(12):4749-4754

#### SUMMARY OF THE STUDY

The authors used thyroid ultrasound to follow 2208 individuals from 12 cities in Denmark over an 11-year period after the initiation of mandatory salt iodination program: Aalborg (moderate iodine deficiency) and Copenhagen (mild iodine deficiency). All nodules larger

than 5 mm were recorded. In the case of multiple nodules, only the three largest were registered. At follow-up, median urinary iodine levels had risen, indicating an overall increase in iodine intake. Of the 618 subjects with thyroid nodules at the beginning of the study, 147 (23.8%) had no nodules at follow up. Approximately 1/3rd of solitary nodules identified at baseline had disappeared 11 years later. Disappearance of thyroid nodules was not associated with sex or TSH level.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that in areas of iodine deficiency, thyroid nodules may disappear over time after starting a salt iodination program, presumably due to an increase in iodine intake. This is independent of a decrease in hypothyroidism.

— Philip Segal, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Nodules: <http://www.thyroid.org/what-are-thyroid-nodules>

Iodine Deficiency: <http://www.thyroid.org/iodine-deficiency>

#### ABBREVIATIONS & DEFINITIONS

**Thyroid nodule:** an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

**Thyroid Ultrasound:** a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses sound waves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid.

**Iodine:** an element found naturally in various foods that is important for making thyroid hormones and for normal thyroid function. Common foods high in iodine include iodized salt, dairy products, seafood and some breads.

**Hypothyroidism:** a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.